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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,205	02/03/2006	Marc Joseph Rita Op De Beeck	NL030933	9593

24737 7590 11/16/2009

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
RAHMJOO, MANUCHER	
ART UNIT	PAPER NUMBER
2624	
MAIL DATE	DELIVERY MODE
11/16/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,205	OP DE BEECK ET AL.	
	Examiner	Art Unit	
	MIKE RAHMJOO	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/12/09*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 8- 11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 8-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 10 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujimura et al (US PAP 2005/ 0031166).

As per claims 1, 10 and 11, Fujimura et al teaches edge detection means (i.e., tracking system 200) for detecting an edge in the input image (i.e., map 300 with target 206 and edge 301 and 302) see fig. 3 and [30];

depth map generation means (i.e., tracking system 200) for generating a depth map for the input image on basis of the edge, a first group of elements of the depth map corresponding to the edge having a first depth value, related to a viewer of the multi-view image (i.e., hands of the diver at the steering with Dmin or head of the driver at the headrest with Dmax of fig. 1A), and a second group of elements of the depth map corresponding to a region of the input image, being located adjacent to the edge, having a second depth value, related to the viewer of the multi-view image (i.e., the areas adjacent to said edges in fig.1A), the first value being less than the second value (i.e., the difference of depth between said elements denoted with Dmin and Dmax.

Fujimura et al teaches target 206 associated with edge and depth information which is shown with transformation/ depth map where points out side the targets edge have values and depth information relative to the targets edge as an indication of the distance of the targets edge 301 having a reference values "0" see fig. 3 and [32]; and

rendering means (i.e., tracking system 200) for rendering the multi-view image using the input image and the depth map corresponding to the two depth values (i.e., output of the tracking data) see fig. 6-8. [28] teaches a depth window 204 corresponding to a range of operations (Dmin and Dmax) as the two depth values.

Claims 1-4 and 8- 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Neumann et al (US PAP 2004/ 0105573), hereinafter, Neumann.

As per claims 1, 10 and 11, Neumann teaches edge detection means (i.e., means 110,120 and 130 of system 100 of fig. 1) for detecting an edge in the input image(i.e., detection of the roof/ and building edges made possible via system 100) see [45] ;

depth map generation means (i.e., means 160 and 170 of system 100 of fig.1) for generating a depth map for the input image on basis of the edge, a first group of elements of the depth map corresponding to the edge having a first depth value, related to a viewer of the multi-view image (i.e., detection of the roof/ and building edges along with associated depth discontinuities of the edges made possible via system 100 in [44- 45]), and a second group of elements of the depth map corresponding to a region of the input image, being located adjacent to the edge,

having a second depth value (i.e., depth surface defined along with two reference points used for edge detection in [44- 45]), related to the viewer of the multi-view image, the first value being less than the second value (i.e., each of the primitives, according to equation 2 having x, y values, which are used to calculate the z values of said primitives; the z values thus calculated of each of the primitives being different when viewed from view points (i.e., when viewing from arbitrary view points in [62]) when image points/ primitives are mapped and a 3D model is thus refined see fig. 5 and [62]); and

rendering means (i.e., means 190 of system 100 of fig. 1) for rendering the multi-view image using the input image and the depth map corresponding to the two depth values see fig. 5- 6.

As per [45-46], Neumann teaches "first, the geometry connectivity information of a Delaunay reconstruction can be used to track the connected edge points. Those edges that lie along the Delaunay triangulation can be accepted as the possible edge points. Second, a depth filter can be used to constrain the detected edges (edges reconstructed and detected, respectively). The depth filter can be applied to all the possible edge points, and those points having similar depth values as that of the defined reference points can pass as correct edge points. Once the roof borders have been extracted, they can be parameterized using least-square fitting, and then the roof corners can be refined again based on the fitted roof borders (depth map generation of possible edge points)".

As per claim 2, Neumann implicitly teaches the edge detection means are arranged to detect the edge by computing pixel value differences between first pixel values of the input image and respective second pixel values of a second input image, the input image and the second input image belonging to a sequence of video images (i.e., multiple streams of data showing a rendered view from a viewpoint made possible via pixel value differences) see [92] and [101].

As per claim 3, Neumann teaches the first pixel values represent one of color and luminance (i.e., occluded portions broadly corresponding to the portions of the image inside an boundary/ or an edge with computed depth map) see.[0088]

As per claim 4, Neumann teaches the first depth value is a function of a first one of the pixel value differences (i.e., refinement of the 2D image to obtain a 3D image in the abstract; [34] teaches use of Delaunay triangulation, to preserve the topology and connectivity information of the *original data* (i.e., as a function of the original data which includes depth information) than other techniques in this context. The hole-filling operation can be performed by directly interpolating the *depth values in the range* image in order to preserve the geometric topology of the model).

As per claim 8 and in light of the rejection of claims 1, 10 and 11, Neumann teaches receiving means (602) for receiving a signal corresponding to an input image(i.e., fig. 1 and elements 140- 170); and

a multi-view image generation unit (604) for generating a multi-view image on basis of the input image(i.e., fig. 1, visualization sub- system 190). Figure 2 also teaches receiving means (stereo camera 210 , GNSS receiver 230 and or 3D internal

sensor 240) and a multi- view generation means (portable data processing system 220) se fig. 2.

As per claim 9, Neumann teaches a multi-view display device (606) for displaying the multi-view image (i.e., display/ and screen) see [89].

Response to Arguments

Applicant's arguments filed 8/12/09 have been fully considered but they are not persuasive.

In response to applicant's remark on page 7 wherein applicant argues "Fujimura teaches a depth image is visually represented with variations in the pixel intensity based on the depth value... see page para. [0026]" and "Fujimura teaches to map depth data for an entire image (e.g. each pixel)" and does not teach depth map generation means for generating a depth map for the input image on basis of the edge, a first group of elements of corresponding to the edge ...and a second group of elements of the depth map corresponding to a region", examiner would point out applicant admits to the depth map with the pixel data. As to the broadest reasonable interpretation offered said pixel data individually or in the entirety have edge information as well as area/ surface information as per rejection of the record.

In response to applicant's remark on page 8 wherein applicant argues "Neumann uses various (known) techniques (including depth discontinuity constraints, 8-neighbors connectivity algorithm, Delaunay triangulation) it does not teach depth map generation means for generating a depth map for the input image on basis of the edge, a first group of elements of the depth map corresponding to the edge having *a first depth value,*

related to a viewer of the multi-view image, and a second group of elements of the depth map corresponding to a region of the input image, being located adjacent to the edge, having *a second depth value,* related to the viewer of the multi-view image, the first value being less than the second value, rendering means (106) for rendering the multi- view image using the input image and the *depth map corresponding to the two depth values as* in independent claims 1, 8, 10 and 11", applicant should submit an argument pointing out disagreements with the examiner's contentions. Applicant must also discuss the reference(s) applied against the claims, explaining how the claims avoid the references or distinguish from them.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Rahmjoo whose telephone number is 571-272-7789. The examiner can normally be reached on 8 AM- 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Rahmjoo
November 11, 2009

/Anand Bhatnagar/
Primary Examiner, Art Unit 2624
November 12, 2009